

**DERWENT-ACC-NO:** 1989-368692

**DERWENT-WEEK:** 199006

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**TITLE:** Plasma unit for metal melting and refining has plasma submerging tuyere situated in melting chamber side wall opposite drainage spout on same level as spout

**INVENTOR:** KOSTYAKOV V N; NOIDEK V L ; POLETAEV E  
B

**PATENT-ASSIGNEE:** AS UKR CASTING PROBLEMS[AUCA] ,  
NAJDEK V[NAJDI]

**PRIORITY-DATA:** 1982SU-3395349 (February 10,  
1982) , 1987DD-304543 (July 3,  
1987)

**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE
SU 1048810 A	July 7, 1989	RU
DD 271238 A	August 30, 1989	DE

**APPLICATION-DATA:**

PUB-NO	APPL- DESCRIPTOR	APPL-NO	APPL-DATE
SU	N/A	1982SU-	February
1048810A		3395349	10, 1982
DD 271238A	N/A	1987DD-	July 3,
		304543	1987

**INT-CL-CURRENT:**

TYPE	IPC DATE
CIPS	C22B9/22 20060101

**ABSTRACTED-PUB-NO:** SU 1048810 A**BASIC-ABSTRACT:**

The unit has melting chamber (3) with a drainage spout (6), plasmatron (2) and hearth electrode (4). The metal refining process efficiency is increased, the construction is simplified and operation reliability is increased since the unit is provided with plasma submerging tuyere (5) situated in the melting chamber side wall opposite the drainage spout on the same level as the spout, and a reversing turning mechanism which allows tilting of the chamber up to 90 deg. towards the drainage spout and the plasma tuyere.

The charge is loaded to the melting chamber, lid (1) is shut and plasmatron (2) is switched on and the metal is melted. At the end of the melting process the plasmatron is switched off and the plasma tuyere is switched on. Simultaneously the

turning mechanism is switched on and the furnace is turned through 90 deg. towards the tuyere (5). After above tuyere space filling with liq. metal the metal refined by ionised gas blowing which is supplied to the melt through plasma tuyere, where it is heated to high temps. At the end of the melt treatment process the turning mechanism is switched on and turns the furnace towards the drainage spout.

USE - The unit is used for metal melting and refining. Bul.25/7.7.89

**CHOSEN-DRAWING:** Dwg.1/2

**TITLE-TERMS:** PLASMA UNIT METAL MELT REFINE  
SUBMERGED TUYERE SITUATE CHAMBER  
SIDE WALL OPPOSED DRAIN SPOUT  
LEVEL

**DERWENT-CLASS:** M25 X25

**CPI-CODES:** M22-G03G; M25-J;

**EPI-CODES:** X25-Q01;

**SECONDARY-ACC-NO:**

**CPI Secondary Accession Numbers:** 1989-163474

**Non-CPI Secondary Accession Numbers:** 1989-280451